

**What is claimed is:**

1           1.     A communication method for conveying message data from a source to a destination,  
2           the method comprising:

3           transmitting message data independently of an operating system of a communication  
4           apparatus, said transmitting being performed at least in part by an operating system independent  
5           access layer; and

6           transferring message data independently of hardware of the apparatus, said transferring being  
7           performed at least in part by a device independent access layer.

8           2.     The method of claim 1, the apparatus forming a shared bus topology for intershell  
9           messages.

10          3.     The method of claim 1, the apparatus forming a star bus topology for intershell  
11          messages.

12          4.     The method of claim 1, further comprising:  
13          processing internal communications within the apparatus with an operating system portion  
14          of the apparatus; and  
15          processing external communications to and from the apparatus with a hardware portion of  
16          the apparatus.

1           5.     The method of claim 1, further comprising performing said conveying of message  
2           data from the source to the destination when the source and destination are both on a first  
3           shelf of the apparatus, and when the source is on the first shelf and the destination is on a  
4           second shelf of the apparatus, and when the source is on a first card of the second shelf and  
5           the destination is on a second card on the second shelf, and when the source is on the first  
6           shelf and the destination is external to the apparatus and not on any one of the shelves.

1           6.     A communication apparatus for transferring message data from a source to a  
2           destination, the apparatus comprising:

3           an operating system portion of the apparatus processing internal communications within said  
4           apparatus independently of an operating system of said apparatus; and

5           a hardware portion of the apparatus processing external communications to and from said  
6           apparatus independently of hardware devices in said apparatus.

1           7.     The apparatus of claim 6, further comprising a shared bus topology for intershelf  
2           messages.

1           8.     The apparatus of claim 6, further comprising a star bus topology for intershelf  
2           messages.

1           9.     The apparatus of claim 6, further comprising:

2           a first shelf including at least a first card; and

3           a second shelf including at least a second card and a third card;

4           said apparatus performing said transferring of message data from the source to the destination

5           when the source and destination are both on said first shelf, and when the source is on said first shelf

6           and the destination is on said second shelf, and when the source is on said second card and the

7           destination is on said third card, and when the source is on said first shelf and the destination is

8           external to said apparatus and not on any one of said shelves.

1           10.    A computer storage medium having stored thereon a set of instructions implementing

2           a method for conveying message data from a source to a destination, said set of instructions

3           comprising one or more instructions for:

4           transmitting message data independently of an operating system of a communication

5           apparatus, said transmitting being performed at least in part by an operating system independent

6           access layer; and

7           transferring message data independently of hardware of the apparatus, said transferring being

8           performed at least in part by a device independent access layer.

1           11.    The storage medium of claim 10, the apparatus forming a shared bus topology for

2           intershelf messages.

1           12.    The storage medium of claim 10, the apparatus forming a star bus topology for  
2           intershelf messages.

1           13.    The storage medium of claim 10, further comprising:  
2           processing internal communications within the apparatus with an operating system portion  
3           of the apparatus; and  
4           processing external communications to and from the apparatus with a hardware portion of  
5           the apparatus.

1           14.    The storage medium of claim 10, further comprising performing said conveying of  
2           message data from the source to the destination when the source and destination are both on  
3           a first shelf of the apparatus, and when the source is on the first shelf and the destination is  
4           on a second shelf of the apparatus, and when the source is on a first card of the second shelf  
5           and the destination is on a second card on the second shelf, and when the source is on the  
6           first shelf and the destination is external to the apparatus and not on any one of the shelves.